

## **REMARKS**

### **Status of the Claims**

[1] As of the Action, claims 1-3, 5-10 were pending. Claims 2, 5-8 and 10 have been canceled herein, leaving claims 1, 3 and 9 pending.

### **Claim Amendments**

[2] Claims 1 and 9 have been amended herein. Support for amendment to claim 1 can be found in the specification at least at pg. 4:2 and Table 1. Support for amendment to claim 9 can be found in the specification at pg. 4:14-16. Thus, no new matter has been added.

### **Advice Regarding Possible Double Patenting Rejections**

[7] Applicant thanks the examiner for advising about the potential double patenting rejections involving claims 5 and 7 and claims 6 and 8. Inasmuch as claims 5 through 8 have been canceled herein, applicant considers the potential rejections resolved.

### **Rejections**

*35 U.S.C. 102(b)/35 U.S.C. 103(a)*

*Shimizu*

[8] In ¶4 of the Action, the examiner rejected claims 1-3 and 5-10 under these provisions as anticipated or, in the alternative, obviated by U.S. Pat. No. 5,486,683 to Shimizu *et al.* ["Shimizu"].

[7] Amended claim 1 now recites an article comprising a thermoplastic polymer composition that has a through plane thermal conductivity of 3.0 watt/m<sup>o</sup>K or more, is a liquid crystalline polymer, and comprises a mixture of carbon fibers and glass fibers wherein the thermoplastic composition has:

a tensile strength (MPa) at least 12% greater than that of the same thermoplastic polymer composition not comprising a mixture of carbon fibers and glass fibers, and  
a thermal conductivity greater than that of the same thermoplastic polymer composition not comprising a mixture of carbon fibers and glass fibers; and

wherein the article is a container that holds food while the food is cooking.

[9] Shimizu col. 5:15-23 discloses fillers such as molybdenumdisulfide, talc, mica, clay, sericite, calcium carbonate, calcium silicate, silica, alumina, aluminum hydroxide, calcium hydroxide, graphite, potassium titanate, glass fiber, carbon fiber, and various whiskers, of which talc and glass fiber are preferred as inorganic fillers. The specification demonstrates at

pg.4:9-13 that, when talc is used as a comparative filler, the thermal conductivity was 0.4 W/m<sup>°</sup>K, well below the recited 3.0 W/m<sup>°</sup>K.

[10] As for the obviousness rejection, Shimizu solved the problem of providing a cooker plate with deformation properties. The Shimizu fillers were chosen to provide strength to the cover plate because it is not completely supported by the underlying heating pad. *See* col. 5:1-4 and 23-25. The Shimizu fillers were not chosen for their thermal properties. Consequently, the Shimizu fillers have very different heat transfer properties.

[11] Shimizu is silent on the thermal property requirement of the cover plate. To the point, since Shimizu does not teach one of skill in the art anything about the recited thermal properties, Shimizu simply cannot predict anything about the recited mechanism--a filler or combination of fillers—for achieving the recited invention. Since Shimizu neither can nor does predict the recited invention, applicant respectfully requests the withdrawal of this rejection.

*35 U.S.C. 102(b)/35 U.S.C. 103(a)*

Shimizu-Nomura

[12] In ¶6 of the Action, the examiner rejected claims 1-3 and 5-10 under this provision as unpatentable over Shimizu in view of U.S. Pat. No. 5,529,716 to Nomura *et al.* [Nomura].

[13] Nomura discloses a liquid crystal polyester in combination with an aluminum compound and optional additives, such as glass fibers, silica, alumina fibers, wollastonite, carbon fibers, potassium titanate, whiskers, etc.; inorganic fillers, e.g. calcium carbonate, dolomite, mica, clay, glass beads, etc.; mold release agents, e.g., fluorine resins; coloring agents such as dyes, pigments, etc.; antioxidants; heat stabilizers; ultraviolet absorbers; anti-static agents; surfactants; etc. Nomura does not disclose any specific information that would have taught one of skill in the art which materials to mix to obtain the desired composition. Thus, to be clear, Nomura does disclose a variety of additives but provides no teaching whatsoever as to how to combine additives to achieve the recited invention.

[14] Moreover, although Nomura examples, especially Example 12, teach the use of an aluminum compound to achieve a thermal conductivity of 1.99 watt att/m<sup>°</sup>K, Nomura nonetheless fails to disclose a combination of elements capable of achieving the recited thermal conductivity of 3 watt/m<sup>°</sup>K. One of skill in the art would not and could not observe Nomura's thermal conductivity of 1.99 watt/m<sup>°</sup>K, which is **50% less** than that recited, and then use Nomura's compound to predict the recited invention. In short, Nomura does not predict a combination of elements capable of having a thermal conductivity of 3 watt/m<sup>°</sup>K.

[15] This absence in Nomura of any specific teaching about how to combine elements to achieve the recited thermal conductivity means that Nomura neither enables one of skill in the art to achieve the recited invention without undue experimentation and that Nomura, without more, cannot predict the recited invention.

[16] The combination of Shimuzu-Nomura fails to address the deficiencies of each reference. Although both references teach numerous materials as potential fillers for the respective polymer compositions, neither reference individually or in combination discloses specifically how to combine their disclosed elements to achieve the recited thermal conductivity. This is because Shimuzu attempts to improve the deformation properties of the cover plate whereas Nomura attempts to improve the deformation properties of a lamp reflector (see abstract). Neither reference discloses anything about selecting the recited fillers to achieve the recited thermal conductivity. In a word, the combination does not teach a skilled artisan the mechanism for predicting the recited invention, which is to choose those fillers that achieve the recited thermal conductivity.

[17] Neither cited reference discloses or suggests the combination of elements claimed in Applicant's invention. For this reason, applicant respectfully requests the withdrawal of the rejections.

[18] In view of the foregoing, applicant respectfully asserts that the claims are in condition for allowance and seeks an allowance of this application.

Respectfully submitted,

/Loretta F. Smith/

**LORETTA F. SMITH**  
ATTORNEY FOR APPLICANT  
Registration No.: 45,116  
Telephone: 302-992-2151  
Facsimile: 302-992-5374

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